IN THE SPECIFICATION:

Kindly replace the paragraph beginning on page 18, line 9, with the following:

To meet the severe receiver requirements of the gigabit Ethernet, the near-end echo/near-end crosstalk canceller of this invention has a correlator **100** of Fig. 3 that creates each coefficient C_0, ..., C_j **125** of the FIR filter **105** that is the function of the previous coefficient. Each coefficient C_0, ..., C_j **125** is the weighted sum of the previous coefficient and the received signal ~~X(k)~~ X(k+1) **115** multiplied by a time delayed version of the transmitted symbol **b(k) 120** and is summarized as follows:

~~$C_j(k+1) = (1-\beta) * C_j(k) + \frac{\beta}{\sigma^2} * x(k) * b(k-j)$ EQ. 1~~

$$C_j(k+1) = (1-\beta) * C_j(k) + \frac{\beta}{\sigma^2} * x(k+1) * b(k-j) \qquad \text{EQ. 1}$$

where:

$C_j(k)$ is the ~~previous~~ filter coefficient from the previous time period.

Cj(k+1) is the filter coefficient for the FIR filter for the ~~next received signal~~ current time period.

~~X(k)~~ **X(k+1)** is the ~~present received~~ signal received during the current time period.

b(k-j) is the transmitted signal delayed by j delay units.

σ^2 is the variance of the transmitted symbol. For gigabit Ethernet $\sigma^2 = 2$.

Customer No.: 28285

β is a weighting factor.

Kindly replace the paragraph beginning on page 19, line 15, with the following:

Refer now to Fig. 5 for a discussion of a first embodiment of the correlator **100** circuit of the near-end echo/near-end crosstalk cancellation circuit of this invention. The received signal ~~**X(k)**~~ **X(k+1) 115** and the delayed transmitted signals **b(k-j) 240a, 240b, 240c, ..., 240d** are the inputs to each of the first multipliers **200a, 200b, 200c, ..., 200d**. The delayed transmitted signals **b(k-j)** are the outputs of each of the unit delay elements **205a, 205b, 205c, ..., 205d**. The unit delay elements **205a, 205b, 205c, ..., 205d** successively delay the transmitted signal **b(k) 120** to form the delayed transmitted signals **b(k-j) 240a, 240b, 240c, ..., 240d.**

Kindly replace the paragraph beginning on page 20, line 15, with the following:

The weighted products **250a, 250b, 250c, ..., 250d** and the weighted previous filter coefficients **260a, 260b, 260c, ..., 260d** are respectively the inputs to the summing circuits **220a, 220b, 220c, ..., 220d** to be additively combined to form the new filter coefficients **Cj(k+1) 225a, 225b, 225c, ..., 225d.** The new filter coefficients **Cj(k+1) 225a, 225b, 225c, ..., 225d** are placed at the inputs **125** of the FIR filter **105** of Fig. 3 to set the FIR filter **105** to reproduce the near-end echo/near-end crosstalk for the received signal ~~**X(k)**~~ **X(k+1) 115** at a next instant.

Customer No : 28285

Kindly replace the paragraph beginning on page 20, line 23, with the following:

It can be shown that the function of EQ. 1 can be rewritten to the form:

~~$C_j(k+1) = C_j(k) + \beta\left(\frac{x(k) * b(k-j)}{\sigma^2} - C_j(k)\right)$ EQ. 2~~

$$C_j(k+1) = C_j(k) + \beta\left(\frac{x(k+1) * b(k-j)}{\sigma^2} - C_j(k)\right) \qquad \text{EQ. 2}$$

As described above, the weighting factor β is chosen in a manner similar to an equivalent weighting factor used in to what is termed a leaky recursive least squares method to calculate the coefficients of an adaptive filter. For this embodiment of this invention, a number of the symbols **n** (for instance, **n**=256 symbols) is chosen and the weighting factor β is equal to the inverse of the number of the symbols. That is:

$$\beta = \frac{1}{n} = \frac{1}{256} \cong .004$$

Kindly replace the paragraph beginning on page 21, line 10, with the following:

Since the transmit signals **b(k) 120** and the received signals ~~X(k)~~ **X(k+1) 115** are digitized samples of the signals transmitted and received on the communication medium (cable **10** of Fig. 2), the multiplication can be performed with shift registers. Refer now to Fig. 6 for a discussion of a correlator **100** of a second embodiment of the near-end echo/near-end crosstalk canceller of this invention.

Kindly replace the paragraph beginning on page 22, line 20, with the following:

The weighted products **350a, 350b, 350c, ..., 350d** and the previous filter coefficients **355a, 355b, 355c, ..., 355d** are subtractively combined in the arithmetic combining circuits **370a, 370b, 370c, ..., 370d** to form the preliminary weighted sums **375a, 375b, 375c, ..., 375d**. The preliminary weighted sums **375a, 375b, 375c, ..., 375d** and the previous coefficients **355a, 355b, 355c, ..., 355d** are the input to the summing circuits **320a, 320b, 320c, ..., 320d** where they are additively combined to form the new filter coefficients $C_0(k+1)$, $C_1(k+1)$, $C_2(k+1)$, ..., $Cj(k+1)$ **225a, 225b, 225c, ..., 225d**. The new filter coefficients $C_0(k+1)$, $C_1(k+1)$, $C_2(k+1)$, ..., $Cj(k+1)$ **225a, 225b, 225c, ..., 225d**, as stated prior, are the inputs **125** to the FIR filter **105** of Fig. 3, to set the FIR filter **105** to reproduce the near-end echo/near-end crosstalk for the received signal ~~**X(k)**~~ **X(k+1) 115** at the next digitized sample of the received signal ~~**X(k)**~~ **X(k+1) 115**.

Customer No.: 28285